

Institutional Model and Activities of Destitute Society Around Forest as an Attempt to Develop the Sustainable and Equitable Forest in East Java, Indonesia

Nasikh^{1*}

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Abstract

A good partnership between people living around forests and the local government to manage the forest resources is one of the models of sustainable and equitable forest development. This research aims at analyzing the institutional model and activities of people living around the forest as an attempt to develop the sustainable and equitable forests. The research took place in Pasuruan and Malang regencies of East Java province, Indonesia. There were 49 informants consisting of local government members and people living around forests (or pesanggem farmers) who actively involved in the organization of forest village and actively developed the sustainable and equitable forests. The research finding shows the institutional model and people's activity in developing the sustainable and equitable forest have already shown a good pattern. The existence of forest village institution and people's activity in developing the sustainable and equitable forest has shown participative and ongoing activities. The working group made by pesanggem farmers and forestry institution showed their significant role in managing the forest resources.

Keywords

institutional, farmers' activity, sustainable and equitable development

1 Introduction

The implementation of economic principles in the management of forest resources and improvement of forest preservation is not contrasted. Economic value-oriented activities, especially ones related to the welfare of the low economic class society, need to be interfered by the government. As one of the renewable resources, the forest is one of the examples of resources which enable to give human beings usefulness in two functions. The first function is the forest becomes living resources to pesanggem farmers. Second one, the forest can act as resources which enable the nature and its environment to be balance.

The review of management and utilization pattern of forest resources in Nauruan and Malang as one of potential areas in the forestry sector is based on three main sets of economy and ecology matters. First, there are a lot of inevitable changes in the forest economy which are free from the interference of policy made to improve the non-wood values. Second, the economic benefits of forestry business only affect some minor parties, while the majority of the society get the loss or politically eliminated. Last, the policies now and then have created strong dependency to large scale of wood harvest, while resources needed to vary the wood economy and make it sustainable are massive and politically hard to move. A sustainable forest development program is one of nature preservation programs which aims at providing forest resources to fulfill the recent and future needs.

In the attempt of implement it, the preservation of forest resources is the main activity other than maintaining the use of water, expanding the job opportunities, as well as increasing the national income. To manage them, the role of government and people living around the forest is very strategic as the main objects of forest management (Twarkins et al., 2001). The forest resources result, both from woodland plant production and natural forest, needs to be improved continuously without disturbing the forest sustainability. Forests for publics need to be developed by providing seeds for post-harvest forest. Besides, companies and society that utilizes the forest need to secure their logs and reforestation. All the attempts to manage the forest must be directed to avoid the forest damage and maintain the forest preservation (Hanani et al., 2003:p.200).

¹ Department of Development Economics, Faculty of Economics, Universitas Negeri Malang, East Java, Indonesia

*Corresponding author, e-mail: n451kh_feum@yahoo.com

Cooperation model and positive partnership between the local government and society to overcome the deforestation problem that is getting worse become one of ideas and activities of sustainable and equitable forest development. Therefore, any attempts to conserve the area, swamp, natural forest, and natural springs are carried out by reforestation in the headwaters and areas around the river (Sumitro, 2000). The local governments of Pasuruan and Malang have shown some attempts in the forest management, especially in the management of teak wood, mangrove, eucalyptus, pine, and *segon* woods. In the recent years, they have done some forest rehabilitations which affects to the significantly increased area of teak wood and mangrove in Pasuruan and Malang.

The pattern of collaborative forest resources management between the *pesanggem* farmers and the local government is intended to develop the involvement of all stakeholders in a certain forest area as well as strengthen the roles and cooperation of decision makers. The *pesanggem* farmers or people living around the forest are subjects who collaborate with the local government to carry out and get the benefits of collaborative forest resources management model. Therefore, in the research proposal the researcher used a lot of participatory approach which emphasized the involvement of the *pesanggem* farmers in every local activity to implement the sustainable forest development. The main group, “community mapping” (describing the social networking and institutional) and other techniques might be applied in carrying out in the management activity and utilizing the forest resources collaboratively.

From the explanation above, the problem shown in this research is how are the institutional model and activities of *pesanggem* farmers in developing the sustainable and equitable forest in East Java?

Pasuruan and Malang regencies had some idle and critical areas which have not been utilized yet, thus it became a problem in the forestry sector. By conducting the program and the forestry institutional model, the problem in both regencies was expected to be solved. The utilization of the idle and critical areas was a specific problem in Pasuruan and Malang regencies, as well as in Indonesia.

The forest development model is aiming at fastening the forest and critical area rehabilitation processes as well as developing the economy capability, social welfare of *pesanggem* farmers and supporting the environment preservation. This model is a responsibility of the local government and *pesanggem* farmers. Therefore, to support it, the government has provided various facilities to stimulate the sustainable forest development. The *pesanggem* farmers, collaboratively with the local government, initiate the forest development to rehabilitate forests and utilize the critical area. (Lee, 2003; Raba, 2006).

The purpose of this research is to describe the institutional model and *pesanggem* farmers’ activities in the implementing the sustainable and equitable forest development; fulfilling the

needs of forests which is able to ecologically and economically contribute to the income of low economic class society; improving the quality of human and natural resources as well as the effectiveness and efficiency of society empowerment in managing the forest resources.

This paper gives new and original contributions. This is reflected by the existence of the new institutional model in the forestry sector to improve the *pesanggem* farmers’ income in Pasuruan and Malang regencies. The originality of the paper was displayed in the institutional structure to improve the people’s prosperity to the direction of the sustainable and equitable forest development. The involvement of the local government of two regencies, *pesanggem* farmers, non-governmental organization, and private parties in developing the sustainable and equitable institutional model is the new finding in the forestry sector.

2 The Forest Village Institution

The forest village institution is one of components defining the sustainable forest development. The existence of forest village can at least facilitate the aspiration and participation of local people. The presence and roles of forest village institution will determine the sustainable forest development. In this research, the forest village institution is a place for the local government and *pesanggem* farmers to develop the forest collaboratively. It is a portrait of forest resources development model which accommodate all components of society. By involving *pesanggem* farmers and local government, the correct understanding of function and roles of forest to lives will improve. This education program will significantly improve the quality of society’s empathy to the function of forest. On the other hand, the technical skill of the local government and society in the forest management need to be improved. The law enforcement has to be applied to monitor the forest management.

One interesting thing is an assumption about a forestry program will be useless if it does not involve the people living around the forest. Even though this assumption always appears in every planning, the involvement of society is still very low up to now. Moreover, the role of society in the forest management not only improve their access to the forest like what forest society counseling have done so far, but it also gives significant role to the society to protect and cultivate the forest because they own it, too. (Pierre, 2000; Maharjan, 2005).

The sustainable forest development need to be applied to overcome the problem of degradation and forest damage by developing pattern of economic sustainability (to overcome the poverty), social sustainability (to overcome joblessness, improve quality of health service and education), and environmental sustainability to preserve the ecosystem which supports the life; such as water, fresh air, forest, and biodiversity (Simon, 2004). Various policies in sector development, such as energy, farming, industry, education, health, and local development need to be improved to support the economic, social,

and environmental sustainability pattern. The developmental management is a good development (good public and corporate governance) if it is supported by transparency, accountability, and control approaches. In this context, the “triangle of development power” of *madani* society is developed. The roles of *madani* society are a) becoming power to balance the development process; b) advocacy; c) empowering the *madani* groups; d) articulating ideas; and e) correcting the market and government failures.

Seeing this condition, the government attempts to involve the local people as their partner to improve their welfare as well as carrying out the forest management. Some activities involving the local people are *tumpang sari*, cattle subsidize, and home industry management. This attempt is well known as prosperity approach which is later developed to be a program *Pembangunan Masyarakat Desa Hutan* (PMDH). The suburban people’s management program has been conducted for some times. Despite the success attempt of increase the income of the suburban family, this program still has a lot of weaknesses and it has not been able to improve the welfare of the society from the low economic status.

The sustainable forest resources management will not work if there is not any forestry institution which can organize all interests and potentials of each actor of the sustainable forest development.

In managing the forest resources which was organized by the existing forestry institution, the role of the local government of Pasuruan and Malang as well as the people residing around the forest was quite strategic as the main object in the forest management. The result of the forest resources, either the production forest or the natural forest, needed to be increased without damaging the forest (this was the global and national aims). All forest management led to prevent forest damage and preserve the forest by the forest institution in each village (Hanani et al., 2003:p.200; Twarkins et al., 2001). The forestry institutional model which enabled to accommodate the stakeholder’ interest would bring positive effect for the local government and the *pesanggem* farmers to immediately solve the problem of forest damaging. This should be one of ideas and activities in the sustainable and equitable forest development. This model should be one of forestry development models which worked. Consequently, any attempt to conserve the areas, swamps, natural forests, and springs by reforestation in the upstream and near the rivers have to be carried out immediately (Sumitro, 2000).

There were three main methods and strategies which were needed to pay attention to in order to develop the sustainable and equitable forest as well as improving the *pesanggem* farmers’ prosperity, namely (a) targeted attempts, it meant that every attempt must point directly to whom who need it; the attempt had to be designed to solve the problems and it suited to the needs, (b) it had to involve and even the people themselves had to carry out

directly the forest management based on the designed aims and recognize their capability and needs. Moreover, it had to equip people with experiences and to enable them to design, conduct, and manage the forest sustainably, as well as to improve their self-esteem and economic conditions, and (c) it had to use group approach as it was easier to solve problems than if it was done individually (Pierre, 2000; Maharjan, 2005).

3 Methodological Approach

This article is a research I conducted since 2013 to 2015 which took places in Pasuruan and Malang regencies, East Java Province, Indonesia. This research studied the forestry institution, on which there was a rule of managing the forest resources and local customs of the people residing around the forest. There were two concerns in the forestry institution, namely the institution as the rules and the institution as an organization for the *pesanggem* farmers, and the local government involved in the forest resources management.

Practically, this study was a development of programs conducted by the local government of Pasuruan and Malang regencies which concerned on the forest resources management. It could be carried out collaboratively between the *pesanggem* farmers and stakeholders namely the Forestry Service and the non-governmental organization in Pasuruan and Malang regencies. The forest development was a sustainable and equitable development, so the utilization of the forest resources can be undertaken optimally and proportionally.

The survey was carried out in the idle and critical areas in Pasuruan and Malang regencies. The consideration of choosing those areas was based on the data from the Agriculture Service, Forestry Service, and *Bappeda* of Pasuruan and Malang regencies in 2004 which reflected the increasing number of forest areas since 2004. Besides, the location of the forest was not in the far distance; it was close to people’s residence, so the utilization of the idle and critical areas by the *pesanggem* farmers was interesting as the research setting. The forest areas in this study were mangrove, teak, and sengon woods in Pasuruan and Malang.

The presentation of information was in the form of case study in which some villages in Pasuruan and Malang regencies tried to optimize the idle and critical areas to increase the *pesanggem* farmers’ income by the forestry institutional model. Thus, this case study preferred to discuss the institutional aspect in managing the forest resources to increase the farmers’ prosperity. Actors involved in the forestry institution were *pesanggem* farmers, the local government of Pasuruan and Malang as the main actor, non-governmental organization, and private parties. In the forestry institution, the right and duty of each actor varied. As the main actor, *pesanggem* farmers and the local government collaborated to empower the potential of the human resources.

This research was a descriptive qualitative research. It was employed to describe the institutional model as well as the society’s activities in order to implement the sustainable forest

development. There were 49 informants consisting of local governments and *pesanggem* farmers who actively involved in the forest village institution and participated in creating the sustainable and equitable forest development in Pasuruan and Malang regencies of East Java, Indonesia. Moreover, this research was information-based research which focused on the forest village institutional to implement the sustainable forest development and *pesanggem* farmers' activities in employing and utilizing the forest resources to develop the forest.

This research took place in a forest area which formerly became critical and non-active area in Pasuruan and Malang regencies. The area now becomes the fertilized and potential area. The forest area used in this research was mangrove, teak wood, and *sengon* woodlands.

In data collection process, the researcher visited the stakeholders who actively and directly involved in the process of utilization of forest resources. This step was to look comprehensively at the situation and condition of the research setting. The next step was exploration in which the researcher collected the data about the institutional model of the forest village and *pesanggem* farmers' activities in processing and utilizing the forest resources. The researcher also attempted to find another data resources or competent informants who had adequate knowledge, understanding, and awareness to the utilization of forest resources.

The researcher used interactive model of analysis in this research. It consisted of three components of analysis namely input (data collection, data reduction, and data presentation), process (data cross-checking), and output (conclusion and data verification).

To describe the method of examination in this research (to know the success of the existing forestry institution), the *pesanggem* farmers and the local government staff's response rate was measured by using the likert type scale by Chungu (2003). The formula was as follows:

$$L = \frac{X_1(0) + X_2(2) + X_3(6) + X_4(10)}{N}$$

Note:

- L = the index of "The Likert-Type Scale"
- 0 = the value of first category (no change)
- X_1 = the number of response in the first category
- 2 = the value of second category (low change)
- X_2 = the number of response in the second category
- 6 = the value of third category (moderate change)
- X_3 = the number of response in the third category
- 10 = the value of forth category (high change)

4 Results

Forest areas in Pasuruan and Malang regencies were two places which have wide range of forest resources. These two regencies also own fertilized farming and crop areas. The

potential of biodiversity in the farming, crops, and forest sectors in Pasuruan and Malang regencies were able to support other sectors to improve the economic development in the area.

The endless exploitation towards the forest resources and the absences of reforestation program would affect to the decreasing of forest quality and worse, it would cause the erosion, flood, and other natural disasters. The brutal deforestation done by humans was one of the main causes of forest damages. The forest resources were the base of living existence in the earth. It was because forest did not only provide foods and production materials, but it also produced oxygen, supported the soil layers, and kept the water supply. In the last few decades, the local and central governments failed to collaboratively manage and utilize the forest resources with the society due to the lack of their involvement as the government's partner.

As the partner of the local government, the society living close to the forest played the significant roles in implementing the sustainable forest development. The different paradigm of managing and utilizing the forest resources made a new system raised. The new system attempted to accommodate all business of involved parties. This system made the society involve actively in the forest management and utilization which would result in the sustainable forest. The role of society in the forest management was basically one of sustainable development activities which utilized the natural resources to people's benefits. This forest management could integrate the ecology, economy, social, and cultural concepts. One interesting thing was a program of forest management would not be successful if it did not involve the role of society and local government.

The institutional model of forest resources and *pesanggem* farmers' activities in the sustainable forest management were forest management models which faced a different challenge from other resources management. The challenge was how to allocate enough resources to the next generation. The sustainable and equitable forest management needed an institution to monitor and evaluate the activities of forest management in Pasuruan and Malang regencies. This institutional model presented the collaborative forest management between the local government and *pesanggem* farmers' in creating policies which were implemented in the forest management in each area. The forest management employed the bottom up system and measured the participation level of the *pesanggem* farmers.

This institutional model of forest village needed big budget. The large forest area was able to produce forest products (woods) and farming products such as toga plants, various kinds of sweet potatoes, etcetera. Products made from the institutional model of forest village were local policies to support the social and economy welfare as well as environmental preservation. The key of this model was the existence and active roles of village forest institution and society activities in the forest management. This would be explained as followed.

5 The Institutional Model of Forest Village

The forest village institution in Pasuruan and Malang regencies was able to establish some local policies in the forestry sectors by establishing units of forest resources management and utilization in every village. By establishing working teams, the local people would actively participate in every step of programs, such as planning, managing, monitoring, evaluating, and building awareness and understanding toward the increasing income of the society and collaborative forest management.

The forest village institutional, by their sub-institution namely working team, carried out some operational activities in the field, such as mapping, area cleaning, seed bedding, planting, monitoring, and evaluating the sustainable and equitable forest development. Furthermore, the utilization of side plants was able to improve the *pesanggem* farmers' welfare in each village.

All forestry institutions in the village, such as the local government, society working teams, *karang taruna*, religious groups, and *pesanggem* farmers were able to play significant roles in the implementation of the sustainable forest development. Their roles were coordinating roles of society, assisting the acceleration of information about the development program, and bridging the people's aspiration to the local government. The role of local government was very important in this sustainable and equitable forest development model. The absence of the local government's support would make this model impossible to implement. The development of natural and human resources in Pasuruan and Malang regencies would always improve. This was the effect of the synergic cooperation between the local government and *pesanggem* farmers in the forest development. This sustainable forest resources management model was able to improve the *pesanggem* farmers' welfare without decreasing the forest degradation so that it was able to be a sector which supported the economic development for other sectors.

There were seven steps to be carried out by the local government and *pesanggem* farmers in the sustainable and equitable forest management. They were defining location, planning, providing plant facilities, planting, seed bedding, maintaining, monitoring, and evaluating. There were seven steps undertaken by the *pesanggem* farmers and the local government of Pasuruan and Malang. First, the planning. A discussion between the local government and *pesanggem* farmers was carried out and the discussion was led by the head of the village accompanied by the leader of *pesanggem* farmers. The discussion was about deciding the location to plant teak woods, mangroves, sengon, and cajuput oil. Another decision made was the location of land which became the forest area. Next, seed bedding and planting. Those activities were carried out by *pesanggem* farmers, while the facilities to carry out such activities were provided by the local government. The maintenance was done by the *pesanggem* farmers. In this activity, they took care and protected the plants from pests and irresponsible people.

All activities must be monitored and evaluated as the reference of the success of the designed plan. The monitoring and evaluation were carried out by the local government of Pasuruan and Malang as well as *pesanggem* farmers.

Those activities were done responsibly based on the obligation and privileges because every party had the same perception and understanding. In the guideline of collaborative forest management activities, awareness and local wisdom in between stakeholders to maintain the conservation and forest resources utilization were two things to be highlighted. The result of analysis related to the stakeholders' activities in the collaborative forest management showed that there was improvement of both stakeholders in the seven activities. From 49 informants, almost 97 % stated that they were very aware of the program so that they actively participated in the collaborative forest management program. This was the result of analysis of *pesanggem* farmers and local government's activities.

From Table 1, it is showed that the activities of the local government and *pesanggem* farmers in the forest resources management model were relatively high. Only some activities related to development and providing facilities which had low participation, which was under 90 %. This means that overall activities in the forest resources management were in the very good category.

The outcome of this research was to give influence to the existing forestry institutional models which had not maximize their roles and responsibility yet. The role of actors in this forestry institutional model was only for their own interest and usefulness. This forestry institutional model was expected to be a pilot project to arrange and program the forest resources management which involved the *pesanggem* farmers. The real effect of this forestry institutional forest was: (1) the effect in the economic aspect: the improved prosperity of people who involved in the forest resources management and utilization as the wood production was increased, and (2) the effect in the ecological aspect: the forest preservation and the sustainable forest function.

In practice, the usefulness of this study is to contribute to the establishment of collaborative forestry institutional model between the *pesanggem* farmers and the local government of Pasuruan and Malang regencies in order to utilize the idle and critical areas so that the prosperity of *pesanggem* farmers can improve. This institutional model also gives usefulness to the forestry sector, particularly in developing the sustainable and equitable forests. Theoretically, the study contributes to the theory of forestry institutional model which is able to accommodate and give chances to the involved stakeholders. Furthermore, it can increase the *pesanggem* farmers' income and it can help the empowerment process of the people in Pasuruan and Malang to manage the sustainable forest resources. The forestry institutional model can also develop the institutional theory of people and local government to empower and improve the effectiveness of developing the sustainable forest.

Table 1 The Activity of Forest Resources Management

No	Activities	High Participation		Medium Participation		Low Participation	
		Number of Person	%	Number of Person	%	Number of Person	%
1	Mapping the location	47	96	2	4	0	0
2	Planning	46	94	3	6	0	0
3	Facilities Providing	43	88	5	10	1	2
4	Planting	46	94	2	4	1	2
5	Seed bedding	46	94	2	4	1	2
6	Maintenance	47	96	1	2	1	2
7	Evaluation and Monitoring	48	98	1	2	0	0

Sources: analysis result processed in 2015

The forest village institutional model and forest management activities were able to improve the partnership between the local government and pesanggem farmers in the sustainable forest management. The improvement of cooperation between them has involved a lot of components of society in the village. The society has been aware of it and they assumed that forests as the natural resources have to be preserved to the next generation.

The forest resources area in Pasuruan and Malang areas were able to produce many kinds of woods, such as teak wood, mahogany, eucalyptus, and etcetera. That was why; the forests could give huge benefits to human, so they had to be well-preserved. The forest development in Pasuruan and Malang regencies had big potential and opportunity to be developed so that it could give significant role to the economic development and natural preservation (see appendix). The forest resources management model had partnership structure, responsibility, and enforcement operational between stakeholders so that every component involved in this model had partnership in developing and owning the forest resources. The doers' activity of forest resources management had to continually renew and fix the management system, especially in its relationship to the role, responsibility, and sharing of economy. (Chungu, 2003).

This way, the forest resources management model was able to improve the pesanggem farmers' welfare and implement the sustainable forest resources. The existence of agreement and understanding from the forest managers to implement the collaborative forest management have effected to the involvement of local government and pesanggem farmers' in every step of forest management, starting from the planning, formulating, implementing, and evaluating. The further effect was the pesanggem farmers' and local government was able to let the society watch and monitor the forest development.

The forest resources management model made the forest managers have different privileges and obligations. They were obliged to have authorities to manage and control the forest management. By acknowledging the privileges and

obligations, the local government and the pesanggem farmers could perform their job well without having the risk of job overlapping. This way, it was very possible to have synergy to implement the sustainable and equitable development. This model was built from the collaborative activities between the local government and pesanggem farmers to actualize the forest development as well as improve the welfare of pesanggem farmers. The partnership model between the local government and pesanggem farmers in the sustainable forest management was able to build a new perspective about the collaborative implementation to improve the accountability. This condition would remain conducive if every party focused on their own obligation, roles, and privileges. They also needed to support each other to make the forest development come true.

This model affected to the understanding and partnership in the realization of the forest resources management, related to its decision making made by the local government and pesanggem farmers. The decision must be transparent, accountable, and it gave mutual benefits to every party. Furthermore, this model had been able to give facilities in accommodating different ideas of the pesanggem farmers and local government without harming the public interest or the sustainable forest development. This model also created a framework of forest resources management implementation which gave mutual benefits in economic and living environment aspects.

The forest resources management model was initiated from the concept understanding about the sustainable forest development. The concept believed that the sustainable forest development was able to improve the economic development and maintain the existence of forest resources in the certain area. From the model, the temporary conclusion drawn was the sustainable and equitable forest resources development in certain area was economic and ecology developments whose advantages could affect the current and next generations by preserving the forest resources. The forest resources played significant roles to support the advancing of economic growth (Suparlan, 2004; Suparmoko, 2002).

In the forest resources management model, there was method of development activities which aimed at identifying all stakeholders who concerned to the forest area. This identification was used as the attempt to strengthen the roles and cooperation between them in the process of decision making. Nowadays, the pressure is focused in the role of forest resources as the main back-up of the biodiversity, main component in the global carbon and hydrology systems. The forest resources also focused on the recreational and aesthetic values and became the base of ecological system in the forest area. Similar to countries aware of their forest area, the economic dimension was not the main reason of the forest damage. Therefore, the local government and the society needed to strictly monitor the forest areas so that the ecological dimension would not decrease its quality.

The evaluation and monitoring in the forest resources management model were based on the consideration of two main integrations and synergy between the economic and ecological aspects. First, the intervention from the party who were interested in the forestry sector policy gave some serious impact. The interest of businessmen could worsen the humans' life, such as floods, erosion, wildfire, and etcetera. As the economic resources assets, exploitation of forest resources was inevitable. The exploitation existed because of the policy interference, by which the log production was increased with no concern to the ecological values. Second, awareness. The doers of illegal logging were not responsible to the forest preservation. They did the reforestation as much as they could which cause the forest damage. The damage would worsen the living system.

Regarding to the forest sector problem, correct point of view and scoring were needed to establish the principle of forest preservation. Economically, the benefits of forest resources had been extracted by the illegal logging doers, so the society got the negative impacts.

The analysis of this model emphasized on the society-based forest resources management. The fact in the field showed a lot of conflicts between the economic and ecological interests. This conflict would not appear if they could balance those two interests.

The experience in the past few years was a failure image of forest development, in which the stakeholder did not have the same understanding. The failure was shown from the abundance numbers of problems which now turned into multidimensional forestry crisis. Land conflict among the stakeholders in certain forest area, wildfire, deforestation which affected to the erosion and sedimentation, and illegal logging were some of serious problems have not solved yet until now. The forest preservation as well as the living sustainability became two distinct plans along with the ecological and cultural changing. Those changing would always go dynamically as the result of poverty and greediness between the components of society.

Forestry sector' problems were mainly caused by the failure of culture. It was reflected from the point of view, norm, and attitude of forest managers in implementing the forest resources policy. The developmental paradigm which was the base of every policy of forest management was influenced by paternalistic belief. The belief resulted to the centralistic pattern, undemocratic, and openness which formed the top and bottom and absolute approach. As a result, the base and orientation of forestry paradigm must have been changed. The paradigm changing would possibly affect to the change of policy and forest management operational. The changing policy was expected to be more equal, democratic, and accounted to the stakeholders involved in the forest resources development.

The forestry institutional model in Pasuruan and Malang was a medium and strategy of the local government to develop the sustainable forest, this institutional model was one of attempts to solve the problem of decreased quality of forest resources, especially the utilization of idle and critical areas. The involvement of *pesanggem* farmers and the local government of both regencies in developing the forest management and utilizing the forest resources was carried out through the existing forestry institution. This institutional model was one of methods employed in the forest management which enabled to bridge the conflict in the lower level. The important aspect in this institutional model was a classical problem about how to manage and utilize the forest resources. By employing this institutional model, the involved actors were expected to be able to manage the forest resources sustainably and equitably. The forest rehabilitation was defined as an attempt to improve and recover the condition of forest by the reforestation. This program was the local government's attempt to solve the problem of forest damage which could affect the ecological, social, and economical problems, particularly *pesanggem* farmers.

This forestry institutional model tried to develop the forest in order to accelerate the process of forest and critical area rehabilitation as well as a medium to develop the economical capability and social welfare of people around the forest. This institutional model was the responsibility of the local government and *pesanggem* farmers. Therefore, to support the program, the local government provided some facilities whose function was to stimulate the sustainable forest development. The local government and *pesanggem* farmers took the initiative to design the forest development to rehabilitate the forest and utilize the critical areas. In line with the shifting paradigm of development to the economical democracy and the existence of economic crisis, it seemed that the people's opinion about the forest management shifted to the footloose industry (it did not affect economically). If this remained the same, there would be long-term problems, such as the forest damage, erosion, and poverty to people living around the forest.

There were two principles which became the perspective of the stakeholders in the forest management.

1. The forest and local people were inseparable. Therefore, the forest management must have been based on the people (community-based forest management) in which the local people became the main actor. What actually happened in the real life was state-based forest management.
2. The forest was integral ecosystem. As a result, the conventional forest management which was oriented to the timber extraction needed to be change into forest management which oriented to the multi-products natural resources. It was not only woods or non-woods, but also environmental services and other benefits (forest resources based management). The change of plans would be useless if the implementation of the community-based forest management did not apply the principles of sustainable and equitable forest management.

The economic, social, and ecological principles as well as collaborative forest resources management involving the local people were two main requirements to achieve the goal of sustainable forest management. The sustainable and equitable forest development model was the solution of forest management in Indonesia so that it could give economical values to the local people as well as preserving the forest resources. Therefore, economic and ecological aspects became the consideration based on the forest potential and social-cultural conditions of the local people. In this perspective, it was very necessary not to think of woods and other products as the result of forest management. The paternalistic culture which resulted in the inequality of stakeholders became another cause of forest management failure. The local government, especially the law enforcer and forestry institutions should have had power to implement policies which benefited to all components of society.

The transparency and responsibility of the forest managers became the solutions to the problems above. The principle of responsibility and transparency reflected the highest authority of the stakeholders involving in the forest resources management. In the perspective of forest resources management, the role of society and the local government became the main point in each activity. The democracy of forest management must have been accepted by all components of society (the government, private party, other group of society, and society around the forest). The benefit sharing must have been accepted fairly and proportionally by all components. The fair principle could be implemented when the cultural values and ethics were remained to be the base of the forest resources management (Purnomo, 2005; Richards, 2006; Iddi, 2007).

The policy of forest resources management was not an elitist thing. In the perspective of new paradigm, the forest resources management had to accommodate the main principles, which was being responsible to the society (public accountability). It meant that every stakeholder had the right to get the open access to information about forest and forestry

(Goulet, 2003; Raba, 2006). It was not limited to the profitable information, but also other information about the negative effect of the forest resources management, especially the ecological and social impacts.

The forest preservation would not be achieved if the policy of forest resources management did not involve the legal security principle. Without legal security which covered up the area statuses and stakeholders' right, the latent conflict regarding to the forest area would remain the same. The conflict in the past few decades showed that the government did not have adequate legitimacy, even though they were under the formal law base. Meanwhile, the local people who wanted to get their right regarding to the forest management were always lost in every conflict because they did not have unwritten regulation. Therefore, the law security was needed to accommodate the existing law systems.

6 Conclusions

The institutional model and *pesanggem* farmers' activity to develop the sustainable and equitable forest in East Java has patterned well. The existence of forest village institutions and *pesanggem* farmers' activities in the sustainable and equitable forest management was considered very participative and it can increase very well in the future. The working group of *pesanggem* farmers and forestry institutional play significant roles in the forest resources management.

7 Recommendation

This study gives a recommendation for the policy makers as well as the local government of Pasuruan and Malang regencies, related to the forestry institutional model to manage the forest resources and improve the prosperity of *pesanggem* farmers in Pasuruan and Malang.

The recommendation was given to Perhutani (the government-owned company), the local government of Pasuruan and Malang, *pesanggem* farmers, and the non-governmental organization related to the forestry sector to improve the prosperity of the *pesanggem* farmers in the economic and ecological sector.

The research findings are able to give recommendations to all actors, particularly related to the decision making on how to manage the forest resources to minimize the negative action in utilizing the forest resources. Furthermore, it was expected that the forestry institutional model could prevent future problems related to the management of forest resources in terms of administration, organization, and coordination.

8 Suggestion

This model is able to give concept and empirical evidence to the forestry institutional model in Indonesia or worldwide. This institutional model is able to work as it is expected as there is the same perception and interests of actors involved. The right and duty written in the agreement made by the local

government of Pasuruan and Malang and *pesanggem* farmers which was supported by the customs can optimize the existence of this forestry institution. The weakness of this forestry institutional model is the absence of fixed dividend related to the wood production. The local people have not got roles to manage the wood production yet; they only get the dividend from the intercrops (the plants in between the teak woods).

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References

- Chungu, A. S. (2003). An Integrated Model to Assess Technological Alternatives in Rular areas of Tanzania. Asian Institute of Technology, Bangkok, Thailand
- Conyers, D. (1984). *Perencanaan Sosial Di Dunia Ketiga, Terjemahan.* (Planning of Social in the Third World.) Gajah Mada University Press, Yogyakarta. (in Indonesian)
- Everett, Y. (2001). Participatory Research for Adaptive Ecosystem Management: A case of Nontimber Forest Products. *Journal of Sustainable Forestry.* 13(1-2), pp. 335-357. https://doi.org/10.1300/J091v13n01_09
- Goulet, D. (1989). Participation in Development: New Avenues. *World Development.* 17(2), pp. 165-178. [https://doi.org/10.1016/0305-750X\(89\)90242-8](https://doi.org/10.1016/0305-750X(89)90242-8)
- Hanani, N., Jabal, T. I., Mangku, P. (2003). *Strategi Pembangunan Pertanian, Sebuah Pemikiran Baru.* (The Agriculture Development Strategy, A New Thought.) Pustaka Jogja Mandiri, Yogya. (in Indonesian)
- Lee, M. (2003). Conceptualizing the New Governance: A New Institution of Social Coordination. In: Institutional Analysis and Development Mini-Conference, Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington, Indiana, USA, May 3-5, 2003.
- Maharjan, K. L. (2005). Nogyo no Kozoteki Teitai to Kaihatsu Seisaku. (Structural stagnation of agriculture and development policy of Nepal). In: *Hatten Tojokoku Sangyo Kaihatsu Ron.* (Industry Development of Developing Countries in South Asia.), Kawai, A. (ed.), Hosono Daigaku Kyoiku Shinkokai, pp. 118-128. (in Japanese)
- Nasikh (2013). A Model of Collaborative Forest Resources Management Between the Local Government and Pesanggem Farmers To Improve the Prosperity of Poor Family Farmers in East Java. *Indonesian Journal of Geography.* 45(1), pp. 80-89. URL: <http://jurnal.ugm.ac.id/ijg/article/view/2408/2164>
- Nasikh (2014). Horizontal Management of Forest Resources to Enhance the Partnership and Account Ability in Pasuruan, East Java, Indonesia. *Asian Journal of Humanities and Social Studies.* 2 (5), pp. 685-688.
- Purnomo, H. (2005). A Modeling Approach to Collaborative Forest Management. PPS IPB Not Published, Bogor.
- Pierre, A. (2000). Community possibilities and approaches toward forestry in Haiti. In: Possibilities and approaches toward community forestry in the Caribbean: Proceedings of the Tenth Meeting of Caribbean Foresters at Georgetown, Guyana, 13-16 June, 2000. (Ruiz, B. I., Wadsworth, F. H., Miller, J. M., Lugo, A. E. (ed.)) pp. 101-102.
- Iddi, S. (2004). Community participation in forest management in the United Republic of Tanzania. In: Second International Workshop on Participatory Forestry in Africa Defining The Way Forward: Sustainable Livelihoods and Sustainable Forest Management Through Participatory Forestry.
- Richards, C., Blackstock, K. L., Carter, C. E. (2004). Practical Approaches to Participation SERG Policy Brief No. 1. Macauley Land Use Research Institute, Aberdeen.
- Raba, M. (2006). *The Model of Governmental Accountability, Theory and Implementation.* UMM Press, Malang.
- Roberts, N. C. (2002). Keeping Public Officials Accountable through Dialogue: Resolving the Accountability Paradox. *Public Administration Review.* 62 (6), pp. 658-669. <https://doi.org/10.1111/1540-6210.00248>
- Simon, H. (2004). *Socio Aspect – Teak Wood Management Technic in Java.* Pustaka Pelajar, Yogyakarta
- Sumitro, A. (2000). *The Structure Analysis of Our Teak Forest.* Bulletin Fakultas Kehutanan UGM, Yogyakarta.
- Suparlan, P. (2004). *Cultural Diversity, Development Strategy & Irian Jaya's People Transformation to Indonesian (Paper).* Kanisius, Jakarta.
- Suparmoko, M. (2002). *Economic Evaluation: Natural and Environmental Resources (Concept and Calculation Method).* LPPEM, Wacana Mulia, Jakarta
- Twarkins, M., Fisher, L., Robertson, T. (2001). Public Involvement in Forest Management Planning: A view from the Northeast. *Journal Sustainable Forestry.* 13(1-2), pp. 237-251. https://doi.org/10.1300/J091v13n01_04

Appendix

- Do you earn some money from the forestry institutional program? Yes.
How much do you earn?
How is the utilization of the forest development and the plants?
 - Production
 - Intercropping production
 - Non-wood production
 - Operational activities
- Planning, choosing location, seed bedding, planting, maintaining, providing facilities, and monitoring and evaluating.
Do you get any dividend form the wood harvest? Yes, it increases our family income.
- With the existence of the forestry institution, how much (in percentage) income you get from the total family income you make?
 - Less than 10%
 - Between 10% to 25%
 - More than 25%
- In your opinion, can the forestry institution contribute to positively to the economic and ecological aspect? Yes, because:
 - It increases the planting activity
 - It plants other kinds of wood
 - It increases the intercropping
 - Others, such as the togetherness of farmers and closer interaction between the local government staff and *pesanggem* farmers in the forest village institution.